

Understanding Place of work data

Exploring the concepts and purpose of place of work data, to understand transport needs and commuting needs for the Australian public

Released 12/10/2022

Source: [Transport: Census, 2021](#)
[Income and work: Census, 2021](#)

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Understanding Place of work data

People use Place of work (POWP ([/census/guide-census-data/census-dictionary/2021/variables-topic/location/place-work-powp](#))) data for a variety of reasons, including when assessing public transport needs, measuring commuting distance and investigating local opportunities for work. The Census is the only data source with this specific information available Australia wide on a small area basis. Place of work information is only applicable to the 12 million people that were engaged in work in the week before the Census (10 August 2021).

POWP data provides information on where employed people aged 15 years or over worked in the week prior to the Census. POWP data is determined from the responses to the 'Business name' and 'Workplace address' questions on the Census form about the main place of work for the respondent in the last week. It is coded to geographic areas called Destination zones (DZNs ([/census/guide-census-data/census-dictionary/2021/glossary/d#destination-zone](#))). The data from POWP, Place of usual residence (PURP ([/census/guide-census-data/census-dictionary/2021/variables-topic/location/place-usual-residence-purp](#))) and Method of travel to work (MTWP ([/census/guide-census-data/census-dictionary/2021/variables-topic/transport/method-travel-work-mtwp](#))) can be cross classified to provide data on journey to work. This can be used to examine the movements of people to and from work, to analyse transport patterns and to assist in planning and development of transport systems.

Method of transport

MTWP provides information on the transport methods employed people used to get to work on the day of the Census. On the Census form, respondents could record multiple responses for method of transport. The majority of people however, only listed one transport method, with 2.0% of respondents listing multiple modes of transport. One exception was walking which is only included where walking was the sole method of transport to work, e.g. a person who caught the train then walked to work would be listed simply as catching the train to work.

Method of transport	Proportion of records (%)
Car, as driver	52.7
Worked at home	21.0
Did not go to work	11.8
Car, as passenger	3.9
Walked only	2.5
Multiple methods	2.0
Bus	1.5
Train	1.4
Bicycle	0.7
Truck	0.6
Other	0.6
Mode not stated	0.5
Motorbike/scooter	0.4
Tram/light rail	0.2
Taxi/ride-share service	0.2
Ferry	0.0

The full listing of the combinations for multiple modes of transport used can be found in the [2021 Census dictionary \(/census/guide-census-data/census-dictionary/2021\)](/census/guide-census-data/census-dictionary/2021). These can be re-grouped or recoded in different ways depending on the needs of the data user. When comparing MTWP totals against the number of total people employed, the number of people who did not go to work or worked at home on the day of the Census should be considered.

COVID-19

POWP and MTWP may look different in 2021 when compared to previous censuses due to the impact COVID-19 had on working patterns.

A number of regions across the country were in various stages of restrictions on and around Census Night, resulting in a greater number of people working from home. This is likely to have impacted responses to POWP. To see an approximate guide to the restrictions in place around this time, see [COVID-19 restrictions by Local Government Areas \(/census/guide-census-data/census-methodology/2021/how-data-collected#downloads\)](/census/guide-census-data/census-methodology/2021/how-data-collected#downloads).

In 2021, an instruction was added to the online form and the Census website to help people in areas affected by COVID-19 restrictions answer the Place of work question. People were instructed to list their employer's usual workplace address if they worked from home due to COVID-19 restrictions. This was to discourage people listing their home address as their workplace address.

Analysis of the proportion of people who listed the same [Mesh Block \(/census/guide-census-data/geography/census-geography-glossary#mesh-block-mb-\)](/census/guide-census-data/geography/census-geography-glossary#mesh-block-mb-) for their usual residence and place of work showed only a slight increase from 2016 (7.3%) to 2021 (8.4%). Given so many people were experiencing COVID-19 restrictions on Census Night, this is a good indicator that in general, people completed the form as instructed.

Interpreting the data

The data items related to POWP have different time references. These should be considered when interpreting the data:

- Place of enumeration refers to the place where a person was counted on Census Night.
- Place of usual residence is where a person usually lives. It may or may not be the location where that person was counted on Census Night.
- Method of travel to work refers to how a person travelled to work on the day of the Census.
- Place of work refers to the address of the main job the respondent had in the week prior to the Census.

This difference in time frames can produce outliers in the data for a variety of reasons.

Example 1: Walked to Brisbane from the Gold Coast

A person spent the night before the Census in Brisbane with a friend and then walked to work in Brisbane city. After work she caught a train back to her parent's home on the Gold Coast (which she regarded as her usual place of residence) on the evening of Census Night, which was the location where she was enumerated.

Example 1

Place of enumeration	Gold Coast
Place of usual residence	Gold Coast
Place of work	Brisbane City
Method of transport to work	Walked Only

Example 2: Caught a ferry to Alice Springs from Manly

A person mainly worked in Alice Springs during the week prior to the Census. However, the person could have:

- moved to Manly the day before the Census and taken a ferry to their new place of employment, or
- been a fly-in/fly-out worker who usually lived in Manly and was enumerated at home, but who temporarily visited the Sydney office the day of the Census, before heading back to Alice Springs for work.

Example 2

Place of enumeration	Manly
Place of usual residence	Manly
Place of work	Alice Springs
Method of transport to work	Ferry



Which to use: Place of enumeration or Place of usual residence?

Both Place of enumeration and Place of usual residence are valid ways of determining the origin of a journey, but they tell different stories. Some things to consider when looking at this data are:

- fly-in/fly-out workers and the different ways they may have reported themselves on the form
- enumeration shows an average day of the year (capturing visiting or holiday tendencies) whereas usual residence demonstrates more long-term trends
- usual residence is unlikely to reflect the movements of an average day, especially in inner city areas where numerous visitors may use transport and do not usually live in those specific areas.

Please see [Comparing Place of enumeration with Place of usual residence \(/statistics/detailed-methodology-information/information-papers/comparing-place-enumeration-place-usual-residence\)](/statistics/detailed-methodology-information/information-papers/comparing-place-enumeration-place-usual-residence) for further information.

Troubleshooting

Why am I not getting any data?

It may be that no people resided in one particular area and worked in another area. This is common when cross-classifying POWP data with other variables such as occupation, industry and MTWP.

I am trying to get a reasonable comparison with other survey data

Be mindful of the geography you are using. If you are trying to compare Census data to other surveys, double check the definition of the geography for each.

My totals don't add up

Be careful when validating against employed totals. Figures may not add up for the following reasons:

- not including the Not stated category of POWP
- not including the Not stated category of MTWP
- if labour force is Not stated, then the POWP of that person is coded Not applicable
- if using 1996 data, Work destination study area ([DZSP \(/AUSSTATS/abs.nsf/66f306f503e529a5ca25697e0017661f/0B07BC8F95B995EBCA25697E0018FC47?opendocument\)](https://abs.nsf.gov.au/abs/66f306f503e529a5ca25697e0017661f/0B07BC8F95B995EBCA25697E0018FC47?opendocument)) must be used in conjunction with Work destination zone ([DZNP \(/AUSSTATS/abs.nsf/66f306f503e529a5ca25697e0017661f/25585AF705B1C43ACA25697E0018FC31?opendocument\)](https://abs.nsf.gov.au/abs/66f306f503e529a5ca25697e0017661f/25585AF705B1C43ACA25697E0018FC31?opendocument)) to fully define the DZNs
- the removal of additivity in the process of perturbation.

I am trying to compare Place of work data over different censuses

Place of work data has been produced since 1971, however the DZNs have been redefined after each Census to account for changes and growth within each state and territory. This means data is not comparable across censuses. Other reasons include:

- data was not available at DZNs level prior to 2011, except by customised data request
- changes to the question about Place of work, especially in the instructions for people with no place of work, and in coding persons to Not applicable and Not stated categories
- the 2016 Census was the first time the [IFPOWP \(/census/guide-census-data/census-dictionary/2021/variables-topic/location/imputation-flag-place-work-ifpowp\)](https://census.gov.au/census-guide-census-data/census-dictionary/2021/variables-topic/location/imputation-flag-place-work-ifpowp) variable was available. This allows data users to identify not only if a DZN has been imputed, but precisely how much information the respondent had provided about their Place of work. Prior to 2016, Place of work was listed as Not stated for respondents who did not provide enough information.
- prior to 1986, all data was at the LGA level rather than Statistical Local Area (SLA) level. This is because the Australian Statistical Geography Classification was first introduced during the 1986 Census.
- prior to 2001 data on journey to work was available only for those people who lived and worked within study areas. Those who worked outside the study area (but were enumerated within it) were coded as 'Worked outside study area'. People enumerated outside study areas were not included in the data, regardless of where they worked.



I want to cross-tabulate Place of work with other geographies

A table cross-referencing SA2 of origin (Place of usual residence) by SA2 of destination (Place of work) for all of Australia should be avoided due to its size and difficulties in processing. A similar table could be attempted at a state level with additional cross-border SA2s added in. Areas that are smaller than an SA2 should not be cross-tabulated with Place of work, even at a state level.

SA1 and DZNs should only be attempted for specific areas of interest.

It is important to calculate cell counts before attempting a Place of work table as they can very easily exceed the maximum table size recommendation. The recommendation is that they are equal to or less than the target population (i.e. employed persons, or a subset thereof).